

HISW
Revision 23
Bell
204B
205A
205A-1
205B
210
January 4, 2007

This data sheet, which is part of Type Certificate No. H1SW, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations and Federal Aviation Regulations.

I - Model 204B, 11 PCLH (Transport Helicopter Category B), Approved April 4, 1963

Fuel MIL-T-5624, Grade JP-4 (See Note 9)

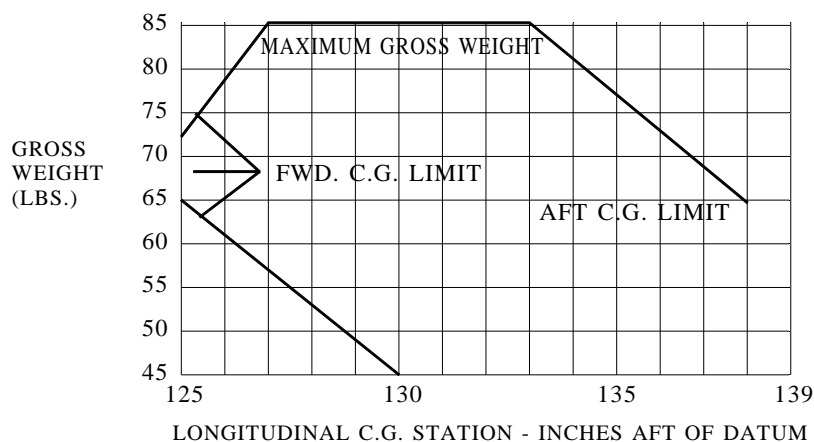
	Torque Pressure (P.S.I.)	Output Shaft Speed (R.P.M.)	Exhaust Gas Temp. (°C)	Gas Gen. Speed (R.P.M.)
Takeoff (5 min.)	47.5 (1100 hp)	6,600 (100%)	638	25,200(100.2%)
Max. Continuous	39.0 (900 hp)	6,600 (100%)	621	24,700(98.2%)

Rotor Limits

<u>Power Off</u>	<u>Power On</u>
Maximum 339 r.p.m. (Dual Tach Reading 104.5%)	Maximum 324 r.p.m. (Dual Tach Reading 100%)
Minimum 294 r.p.m. (Dual Tach Reading 91.0%)	Minimum 310 r.p.m. (Dual Tach Reading 95.5%)

Never exceed 138 m.p.h. (120 knots) up to and including 7,500 lbs. G.W. at sea level
Never exceed 127 m.p.h. (110 knots) from 7,500 lbs. to 8,500 lbs. G.W. at sea level
VNE decreases 3.5 m.p.h. per 1,000 feet (3 knots per 1,000 feet)

(a) Longitudinal C.G. limits
(+127.0) to (+133.0) at 8,500 lbs.
(+125.0) at 7,250 lbs.
(+125.0) to (+138.0) at 6,500 lbs.
(+130.0) to (+138.0) at 4,500 lbs.



(b) Lateral C.G. Limits
 ± 4.7 in. from centerline of fuselage

Empty Weight C.G. Range	See Model 204B Maintenance Manual
Maximum Weight	8,500 lbs.
Minimum Crew	1
Maximum Passengers	9 (with three-passenger, forward facing, center seat installed) or 10 (with four-passenger, rearward facing center seat installed)
Maximum Baggage	400 lbs. (See RFM for loading schedule)
Fuel Capacity	160 gals (+136) for S/N 2001, 2002, 2003, and 2006 thru 2025. 242 gals (+136.5) for S/N 2004, 2005, 2026 and subsequent. See Note 1 for data on unusable fuel.
Oil System Capacity	4 gals (+157) usable oil 1 1/2 gals (included in capacity) See Note 1 for data on undrainable oil.
Rotor Blade and Control Movements	For rigging information, refer to the Model 204B Maintenance Manual
Serial Nos. Eligible	2001 thru 2070, 2196 thru 2199

II - Model 205A, 15 PLCH (Transport Helicopter Category B), Approved June 13, 1968

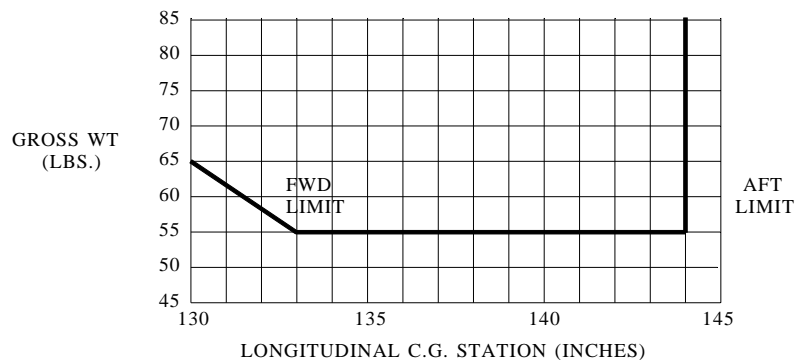
Engine	Lycoming T5311A (See Note 14 for alternate engine)			
Fuel	ASTM Type A (JP-5) or Type B (JP-4) (See Note 15) See Appendix 1 of applicable rotorcraft flight manual for approved vendor designations			
Engine Limits	Torque Pressure <u>P.S.I.</u>	Output Shaft Speed <u>R.P.M.</u>	Exhaust Gas Temp <u>(°C)</u>	Gas Gen. Speed <u>(R.P.M.)</u>
Takeoff (5 minutes)	47.5 (1100 h.p.)	6,600 (100%)	638	25,200 (100.2%)
Maximum Continuous	39.0 (900 h.p.)	6,600 (100%)	621	24,700 (98.2%)

(See Notes 6 and 7)

Rotor Limits	<u>Power Off</u>	<u>Power On</u>
	Maximum 339 r.p.m. (104.5% Tach) Minimum 294 r.p.m. (91% Tach)	Maximum 324 r.p.m. (100% Tach) Minimum 310 r.p.m. continuous (97% Tach) Minimum 294 r.p.m. 0 to 30 knots (91% Tach)

Airspeed Limits	Never exceed 120 knots up to and including 7,500 lbs. G.W. at sea level. Never exceed 110 knots from 7,500 lbs. to 8,500 lbs. G.W. at sea level. Velocity decreases 3 knots per 1,000 feet.
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C.G. Range	(a) Longitudinal C.G. Limits (+130) to (+144) at 8,500 lbs. (+130) to (+144) at 6,500 lbs. (+134) to (+144) at 5,300 lbs. Straight line variation between points given.
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- (b) Lateral C.G. Limits
4.7 in. left from centerline fuselage
6.5 in. right from centerline of fuselage

Empty Weight C. G. Range	See Model 205A Maintenance Manual
Maximum Weight	8,500 lbs.
Minimum Crew	One (1)
Maximum Passengers	Fourteen (14) (with four-passenger rearward facing center seat installed)
Maximum Baggage	400 lbs. (See RFM for loading schedule)
Fuel Capacity	220 gals (+150.4)
Oil System Capacity	3.15 gals (+173) usable oil 1.5 gals. (included in capacity) See Note 1 for data on undrainable oil.
Rotor Blade and Control Movements	For rigging information, refer to the Model 205A Maintenance Manual.
Serial Nos. Eligible	30001 thru 30039. (See Note 17)

III - Model 205A-1, 15 PCLH (Transport Helicopter Category B), Approved October 25, 1968

Same as Model 205A with Lycoming T5313A engine except rotor drive system modified for high takeoff and maximum continuous power ratings.

Engine	Lycoming T5313A or T5313B (See Note 19)
Fuel	ASTM Type A (JP-5) or Type B (JP-4) (see Note 15) See Appendix 1 of applicable rotorcraft flight manual for approved vendor designations.

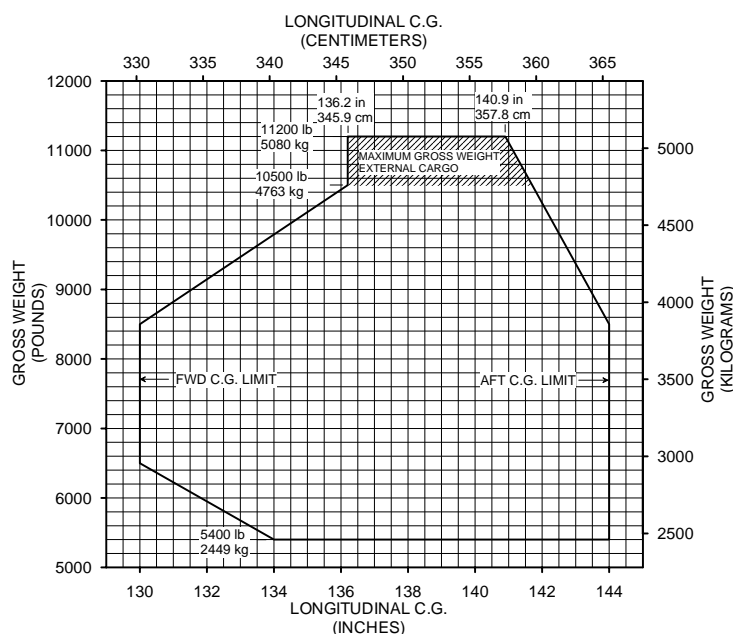
Engine Limits	Torque Pressure (P.S.I.)	Output Shaft Speed (R.P.M.)	Exhaust Gas Temp (°C)	Gas Gen. Speed (R.P.M.)
Takeoff (5 minutes)	54.0 (1250 h.p.)	6,600 (100%)	626	25,150 (100%)
Maximum Continuous	47.5 (1100 h.p.)	6,600 (100%)	610	24,650 (98%)

(See Notes 6 and 7)

Rotor Limits	Power Off	Power On
	Maximum 339 r.p.m. (104.5% Tach)	Maximum 324 r.p.m. (100% Tach)
	Minimum 294 r.p.m. (91% Tach)	Minimum 314 r.p.m. continuous (97% Tach)
		Minimum 294 r.p.m. 0 to 30 knots (91% Tach)

Airspeed Limits
 Never exceed speed 120 knots up to and including 7,500 lbs. G.W. at sea level.
 Never exceed speed 115 knots from 7,500 lbs. to 8,500 lbs. G.W. at sea level.
 Never exceed speed 110 knots from 8,500 lbs. to 9,500 lbs. G.W. at sea level.
 Velocity decreases 3 knots per 1,000 feet.

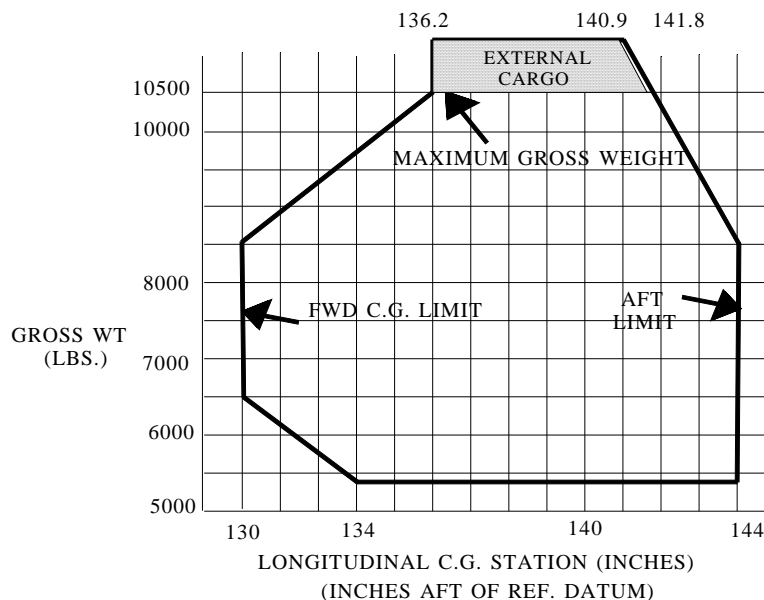
- C.G. Range**
- (a) Longitudinal C.G. Limits
 (+133) to (+143) at 9,500 lbs. SEE FIGURE
 (+130) to (+144) at 8,500 lbs.
 (+130) to (+144) at 6,500 lbs.
 (+134) to (+144) at 5,300 lbs.
 (+136) to (+142) at 10,500 lbs.
 Straight line variation between points given.



	(b) Lateral C.G. Limits 4.7 in. left from centerline of fuselage 6.5 in. right from centerline of fuselage
Empty Weight C.G. Range	See Model 205A-1 Maintenance Manual
Maximum Weight	9,500 lbs. Internal, 10, 500 lbs. External (See Note 16 external cargo limitations)
Minimum Crew	One (1)
Maximum Passengers	Fourteen (14) (with four-passenger rearward facing center seat installed)
Maximum Baggage	400 lbs. (See RFM for loading schedule)
Fuel Capacity	220 gals. (+150.4) See Note 1 for data on unusable
Oil System Capacity	3.15 gals. (+173) usable oil 1.5 gals. (included in capacity). See Note 1 for data on undrainable oil.
Rotor Blade and Control Movements	For rigging information, refer to the pertinent model maintenance manual.
Serial Nos. Eligible	30053 thru 30067, and 30078 thru 30332.

IV Model 205B, 15 PCLH (Transport Helicopter Category B), Approved December 6, 1989

Engine	Lycoming T5317A (Type Certificate E17EA)			
Fuel	ASTM Type A (JP-5) or Type B (JP-4) (See Note 15) See Appendix 1 of applicable rotorcraft flight manual for approved vendor designations			
Engine Limits	Torque Pressure (P.S.I.)	Output Shaft Speed (R.P.M.)	Exhaust Gas Temp (°C)	Gas Gen. Speed (R.P.M.)
Takeoff (5 minutes)	55.7 (1290 h.p.)	6,600 (100%)	677	26,400 (100%)
Maximum Continuous	49.0 (1134 h.p.)	6,600 (100%)	647	25,400 (98%)
Rotor Limits	<u>Power Off</u> Maximum 339 r.p.m. (104.5% Tach) Minimum 294 r.p.m. (91% Tach)		<u>Power On</u> Maximum 324 r.p.m. (100% Tach) Minimum 314 r.p.m. continuous (97% Tach)	
Airspeed Limits	Never exceed speed 130 knots up to and including 7,500 lbs. G.W. at sea level. Never exceed speed 122 knots from 7,500 lbs. to 8,500 lbs. G.W. at sea level. Never exceed speed 106 knots from 8,500 lbs. to 10,500 lbs. G.W. at sea level. Velocity decreases 3 knots per 1,000 feet above 3,000 ft.			
C.G. Range	(a) Longitudinal C.G. Limits +134 to +144 at 5,400 lbs. +130 to +144 at 6,500 lbs. +130 to +144 at 8,500 lbs. +136.2 to +141.8 at 10,500 lbs. +136.2 to +140.9 at 11, 2000 lbs. Straight line variation between points given		SEE FIGURE	



- (b) Lateral C.G. Limits
 4.7 in. left from centerline of fuselage
 6.5 in. right from centerline of fuselage

Empty Weight C.G. Range	See Model 205B Maintenance Manual
Maximum Weight	10,500 lbs. Internal, 11,200 lbs. External (See Note 26 for external cargo limitations)
Minimum Crew	One (1)
Maximum Passengers	Fourteen (14) with four-passenger rearward facing center seat installed
Maximum Baggage	400 lbs. (See RFM for loading schedule)
Fuel Capacity	220 gals. (+150.4) See Note 1 for data on unusable fuel.
Oil System Capacity	3.15 gals. (+173) usable oil 1.5 gals. (included in capacity). See Note 1 for data on undrainable oil.
Rotor Blade and Control Movements	For rigging information, refer to the pertinent model maintenance manual.
Serial Nos. Eligible	30066, 30166, 30188, and 30297. Serial Numbers 30351 and up are not eligible for FAA Certificate of Airworthiness.

V Model 210 (Transport Helicopter Category B), Approved July 20, 2005

Engine	Honeywell International Inc. T5317B or T5317BCV (Type Certificate E17EA)
Fuel	ASTM D-1655 Type A or A-1, NATO F-44, MIL-DTL-5624 Grade JP-5, NATO F-34, MIL-T-83133 Grade JP-8, ASTM D-6615 Type B, NATO F-40, or MIL-DTL-5624 Grade JP-4. (See Note 15) See Appendix 1 of applicable rotorcraft flight manual for approved vendor designations

Engine Limits

	Torque (%)	Output Shaft Speed (R.P.M.)	Measured Gas Temp (°C)	Gas Gen. Speed (R.P.M.)
Takeoff (5 minutes)	100 (1290 h.p.)	6,600 (100%)	863	26,400 (105%)
Maximum Continuous	88 (1134 h.p.)	6,600 (100%)	820	25,400 (101%)

Rotor Limits

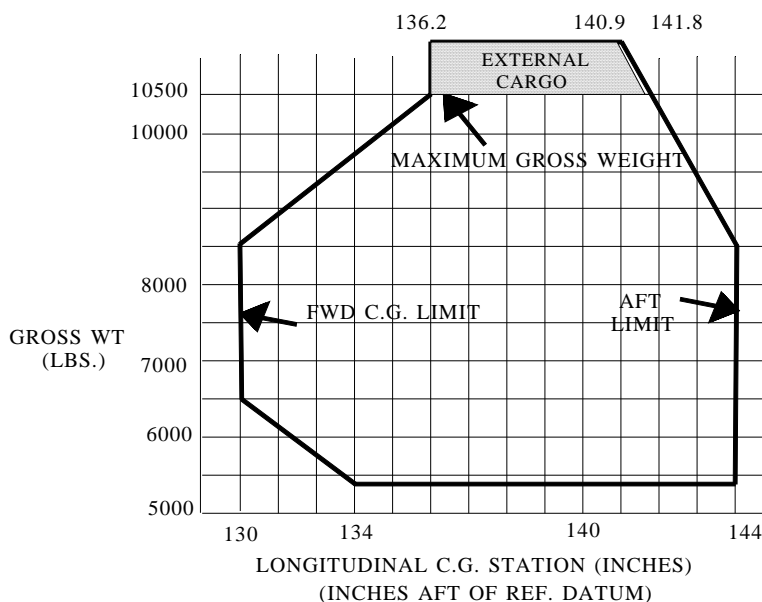
Power Off	Power On
Maximum 339 r.p.m. (104.5% Tach)	Maximum 324 r.p.m. (100% Tach)
Minimum 294 r.p.m. (91% Tach)	Minimum 314 r.p.m. continuous (97% Tach)

Airspeed Limits

Never exceed speed 130 knots up to and including 7,500 lbs. G.W. at sea level.
 Never exceed speed 106 knots at 10,500 lbs. G.W. at sea level.
 Velocity decreased linearly from 130 knots to 106 knots with G.W.
 Velocity decreases linearly 3 knots per 1,000 feet above 3,000 ft density altitude.

C.G. Range

- (a) Longitudinal C.G. Limits
 +134 to +144 at 5,400 lbs.
 +130 to +144 at 6,500 lbs.
 +130 to +144 at 8,500 lbs.
 +136.2 to +141.8 at 10,500 lbs.
 +136.2 to +140.9 at 11,200 lbs
 Straight line variation between points given
- SEE FIGURE



- (b) Lateral C.G. Limits
 4.7 in. left from centerline of fuselage
 6.5 in. right from centerline of fuselage

Empty Weight C.G. Range

None

Maximum Weight

10,500 lbs. Internal, 11,200 lbs. External (See Note 27 for external cargo limitations)

Minimum Crew	One (1)
Maximum Passengers	Nine (9)
Maximum Baggage	400 lbs. (See RFM for loading schedule)
Fuel Capacity	206.1 gals. (+153.2) See Note 1 for data on unusable fuel.
Oil System Capacity	3.15 gals. (+173) Usable oil 1.5 gals. (included in capacity). See Note 1 for data on undrainable oil.
Rotor Blade and Control Movements	For rigging information, refer to the pertinent model maintenance manual.
Serial Nos. Eligible	21001 thru 21400 (see Note 24)

Data Pertinent to all Models

Datum Station 0 (datum is located 7.60 inches aft of the most forward point of the fuselage cabin nose section for the models 204B, 205A, 205A-1 and 205B and datum is located 20.00 inches aft of the most forward point of the fuselage cabin nose section for the model 210).

Leveling Means Plumb line from top of left main door frame.

Certification Basis Models 204B, 205A, 205A-1 and 205B

CAR 7 dated August 1, 1956, Amendments 7-1 through 7-4, Category B, and Special Conditions for Turbine Powered Rotorcraft dated June 16, 1961, and amended June 21, 1967. No exemptions

Model 210

14 CFR Part 29 dated August 12, 1965, Amend 29-1; 14 CFR Part 29.501, 29.1091, 29.1181, 29.1191, and 29.1195 of Amend 29-3; 14 CFR Part 29.607 of Amend 29-5; 14 CFR 29.1397 of Amend 29-7; 14 CFR Part 29.1387 of Amend 29-9; 14 CFR Part 29.997, 29.1013, 29.1015, 29.1093, 29.1183, and 29.1305 of Amend 29-10; 14 CFR Part 29.903, 29.917, 29.931, 29.939, 29.951, 29.971, 29.977, 29.979, 29.999, 29.1041, 29.1043, 29.1125, 29.1143, 29.1165, 29.1189, 29.1197, 29.1307, 29.1322, 29.1549, and 29.1557 of Amend 29-12; 14 CFR Part 29.901 and 29.1121, and 29.1337 of Amend 29-13; 14 CFR Part 29.1309 and 29.1335 of Amend 29-14; 14 CFR Part 29.1353 of Amend 29-15; 14 CFR Part 29.1529 of Amend 29-20; 14 CFR Part 29.1, 29.79, 29.1321 and 29.1587 of Amend 29-21; 14 CFR Part 29.1303, 29.1325, 29.1331, 29.1333, 29.1355, and 29.1357 of Amend 29-24; 14 CFR Part 29.1027 of Amend 29-26; 14 CFR Part 29.807 of Amend 29-30; 14 CFR Part 29.2 of Amend 29-32; 14 CFR Part 29.1329, 29.1351, and 29.1359 of Amend 29-42; 14 CFR Part 29.1323 of Amend 29-44; 14 CFR 36 dated November 3, 1969, Amends 36-1 through 36-24, Subpart H.

No exemptions.

Equivalent Safety Finding:

(1) Number AT2192RC-R/A-3, 14 CFR 29.501(e) One-skid landing loads in the level attitude

Production Basis Production Certificate No. 100 for Models 204B, 205A, and 205A-1. For the Model 210 None. Prior to original certification of each Model 210 aircraft, an FAA representative must perform a detailed inspection for workmanship, material, conformity with the approved technical data, and a check of the flight characteristics (see note 24).

Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the helicopter for certification. In addition, the following item of equipment is required with each helicopter as specified:</p> <ul style="list-style-type: none"> (a) Outside air temperature gage for all models (b) Engine tail pipe temperature gage for Models 204B, 205A, 205A-1 and 205B. (c) FAA approved Rotorcraft Flight Manual as follows: <ul style="list-style-type: none"> (1) Model 204B, dated March 29, 1963, reissued April 26, 1965, incorporating revisions 1 through 8 (2) Model 205A, dated May 31, 1968, required with Lycoming Model T5311A engine (3) Model 205A, dated August 15, 1968, required with Lycoming Model T5313A engine except Manual dated August 16, 1968, required for Model 205A, S/N 30011 thru 30016 (4) Model 205A-1, dated October 18, 1968. (5) Model 205B, dated December 6, 1989. (6) Model 210, dated July 20 2005.
Note 1.	<p>Current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions, when necessary must be provided for each helicopter at the time of original certification.</p> <p><u>Model 204B:</u> The certificated empty weight and corresponding C.G. locations must include undrainable oil of 1.72 lbs. (+154), and unusable fuel of 13.75 lbs. (+136) with 160-gal. capacity fuel system and 19.0 lbs. (+136) for 242-gal. capacity fuel system.</p> <p><u>Model 205A, 205A-1, and 205B:</u> The certificated empty weight and corresponding C.G. locations must include undrainable oil of 1.72 lbs. (+154), and unusable fuel of 16.5 lbs. (+144).</p> <p><u>Model 210:</u> The certified empty weight and corresponding C.G. locations must include undrainable oil of 1.72 lbs. (+154), and unusable fuel of 22 lbs. (+137).</p>
Note 2.	<p>The following placard must be displayed in front of and in clear view of the pilot: "THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE FAA APPROVED ROTORCRAFT FLIGHT MANUAL." All placards required in the approved rotorcraft flight manual must be installed in the appropriate locations.</p>
Note 3.	<p>The retirement times of critical parts are listed in the following table and also appear in Section I of the pertinent model maintenance manual. These values of retirement or service life cannot be increased without FAA engineering approval. The Models 205B and 210 retirement times appear in Chapter 4 of the Models 205B and 210 Maintenance Manual respectively and do not appear in the following table:</p>

Model 204B

Description

<u>Main Rotor Components</u>	<u>Part Number</u>	<u>Service Life Hours</u>
Yoke	204-011-102 all	3600
Blade	204-011-200-1	500
Blade	204-011-250-1 & -5, -113	2500
Grip	204-011-121-1	9000
Drag Brace	204-011-140-1	2400
Retention Strap	204-011-113-1	200
Retention Strap	204-012-122-1 & -5	1200/24 Mos
Retention Strap	204-012-112-5	Not Authorized
Outboard Strap Fitting	204-011-115-1	1000
Outboard Strap Fitting	204-012-103-1	3000
Inboard Strap Fitting	204-011-138-1 & -3	1000
Inboard Strap Fitting	204-012-102-1 & 5	1200
Inboard Strap Fitting	204-012-102-9	2400
Strap Pin	204-011-176-1	1000
Strap Pin	204-012-104-1, -5	2400
Retention Strap	204-310-101-101	1200/24 Mos
M/R Trunnion	204-011-105-1	15000 AD 89-02-07

Main Rotor Mast Controls

Pitch Horn	204-011-120-5	3000
Scissors	204-011-406-5 & 9	1000
Swashplate Drive Link	204-011-407-1	9000
Swashplate Support	204-011-404-5, -9, -17, & -121 -125	1000
Collective Lever Assy	204-011-438-1	1000
Center Frame Set	204-011-307-1	10000
Collective Sleeve	204-011-408-3	9000
Gimbel Ring	204-010-404-1	9000
Swashplate Outer Ring	204-011-403-1	9000
Scissor Hub	204-011-405-9	9000
Scissor Tube	204-011-442-1	9000
Mixing Lever	212-010-302-1 -105	9000
	204-011-301-1 & -5	9000
Pitching Link	204-011-127-1	9000
Tube, Stabilizer Bar	204-011-328-1	2400
Tube, Stabilizer Bar	204-011-328-11	5000
Control System Bolts (From Boost Cylinders through Pitch Horn)		1000

Description

<u>Miscellaneous</u>	<u>Part Number</u>	<u>Service Life Hours</u>
Cross tubes (float gear) fwd. & aft	204-706-053-3 or, -5, -67, -75, -77	1000

Fixed Controls

Left Cyclic Cylinder Assy	204-076-070-1	9000
Right Cyclic Cylinder Assy	204-076-070-3	9000
Collective Cylinder Assy	204-076-070-5	9000
Support Assy	204-001-340-1	9000
Support Assy	204-001-341-1	9000
Left Cyclic Cylinder Assy	204-076-064-1, -7	9000
Right Cyclic Cylinder Assy	204-076-064-3, -9	9000
Collective Cylinder Assy	204-076-064-11, -5	9000

Elevator and Elevator Control System

Horn Assy	204-001-937-5	3000
Elevator Assy	204-030-858-43 & -44	3000

Tail Rotor Components

Blade	204-011-702-15 & -17, -19	1000
Grip	204-011-706-9 & -17	500
Yoke	204-010-781-5 & -9	1000
Grip	204-011-728-1, -19	300 AD 88-25-05
Yoke	204-011-722-1	1000
Pitch Chains	-----	AD 76-12-7, AD 74-23-02
Grip	205-011-711-101	2500

Drive System Components

Main Rotor Mast	204-011-450-1	6000 AD 89-02-07
Main Rotor Mast	204-011-450-7, -105	15000 AD 89-02-07
Tail Rotor Shaft	204-040-402-7 & -9	10000
Tail Rotor Shaft	204-040-620-3 & -5	10000
T/R Drive Shaft Hangar Bearing	204-040-615-3 & 623-1 & 623-5	1000
Mast Bearing	204-040-136-1	1000
Input Drive Shaft	204-040-433-101	5000

Model 205A and 205A-1Main Rotor Components

Blade	204-011-250-1 -5, -9, & -113	2500
Grip	204-011-121-5	9000
Drag Brace	204-011-140-1	2400
Retention Strap	204-012-112-5	Not Authorized
Inboard Strap Fitting	204-012-102-5	1200
Outboard Strap Fitting	204-012-103-1	3000
Strap Pin	204-012-104-5	2400
Retention Strap	204-012-122-1 & -5	AD 80-17-09
Inboard Strap Fitting	204-012-102-9	2400
Yoke	204-011-102- (all)	3600
Retention Strap	204-310-101-101	1200/24 Mos

Main Rotor Mast Control

Pitch Horn	204-011-120-5	3000
Scissors	204-011-406-9	1000
Swashplate Drive Link	204-011-407-1	9000
Swashplate Support	204-011-404-5, -9, -17, -121, & -125	1000
Collective Lever	204-011-438-3	1000
Collective Pin Lever	204-011-446-3	1000
Stabilizer Bar Centerframe	204-011-307-1	10000
Stabilizer Bar Tube	204-011-328-1	2400 or 3 years
Stabilizer Bar Tube	204-011-328-11	5000 or 5 years
Mixing Lever	204-011-301-1 & 212-010-302-1	9000
Collective Sleeve	204-011-408-3	9000
Gimbel Ring	204-010-404-1	9000
Swashplate Outer Ring	204-011-403-1	9000
Scissors Hub	204-011-405-9 & -13	9000
Scissors Tube	204-011-442-1 & 212-010-404-5	9000
Pitch Tube	204-011-127-1	9000
Control System Bolts (from Hydraulic Cylinders to Pitch Horn)		
Bolts, hydraulic cylinder to lower support for dual hydraulic system only		1000
M/R Trunnion	204-011-105-1	15000 AD 89-02-07

Tail Rotor Components

Blade	204-011-702-15 or -19	1000
Grip	204-011-728-13 or -19	300 AD 88-25-05
Yoke	204-011-722-5	1000
Blade	212-010-750-9, -11	5000
Yoke Assy	212-010-704-1, -5 or 744-1, -5	5000
Pitch Chains	-----	AD 76-12-7, AD 74-23-02

Grip	205-011-711-101	2500
Tail Rotor Yoke	212-011-702-1	5000

Drive System Components

Mast Bearing	204-040-136-7, -9 & 212-040-136-1	1000
M/R Mast	204-011-450-007, -105	15000 AD 89-02-07
Input Drive Shaft	204-040-433-101	5000

Miscellaneous

Cross Tubes	205-050-114-23, -25	Conditional (AD 80-21-05)
Cross Tubes	204-706-053-5 and -67 and -3, -75, -77	1000
Cross Tubes	205-050-114 and 205-706-050	AD 76-14-03 & 80-21-05

Note 4. Information essential for proper maintenance of the helicopter is contained in the appropriate Bell Helicopter Company Model Maintenance Manual and series Component Repair and Overhaul Manual.

Note 5. Lycoming Model T5309B, T5309C, and T5311A engines are eligible at the same ratings and limitations as the Model T5309A engine in Model 204B helicopters equipped with P/N 204-060-494-1 orifice installed in the oil cooler bleed air system in accordance with Bell Service Instruction No. 204-10. Fuel, per MIL-J-5624, Grade JP-5 is eligible in Model 204B helicopters equipped with Model T5309C and T5311A engines. See Note 21.

Note 6. Torque pressure output by the engine torque sensing system varies with individual engines. A calibration of this value is required on each engine and the value corresponding to takeoff power is stamped on the engine data plate. To assure correct interpretation of this value on the aircraft torquemeter, the torquemeter must be adjusted so that the value of 47.5 (for the Model 204B and 205A); 54.0 (for the Model 205A-1) or 55.7 (for the Model 205B) on the torquemeter plastic overlay corresponds to the engine data plate torque pressure.

Specific instructions for this adjustment are included in the applicable Rotorcraft Flight Manual.

For the Model 210, the engine calibration factor is the torquemeter oil pressure corresponding to 875 ft-lbs. To assure correct interpretation of this value on the aircraft torque indicating system, the torque indicator must be calibrated so that the takeoff limit (100% torque) is equal to 1026.5 ft-lbs. Actual torquemeter pressure at takeoff power will vary depending upon engine calibration factor. Specific instructions for the torque indicator calibration are included in the aircraft maintenance manual.

Note 7. Gas producer speed as shown under "Engine Limits" are maximum permissible speeds. The gas producer speed for rated power output varies with individual engines and must be determined during engine calibration and installed on the instrument panel must correspond to the engine data plate gas producer speed. For Models 204B, 205A, and 205A-1 helicopters, the engine gas producer speed limits also vary with OAT in accordance with the schedule as shown on the Temperature Limit placard on the instrument panel.

Note 8. For the models 204B, 205A, 205A-1 and 205B the maximum permissible exhaust gas temperature varies with ambient temperature as described in the Rotorcraft Flight Manual and on the face of the ambient temperature gage on the instrument panel.

Note 9. Phillips PFA55MB anti-icing additive at a concentration not in excess of 0.1% by volume may be used in fuel for the Model 204B helicopter. No fuel system anti-icing credit is allowed.

Note 10. The engine air induction system has been substantiated for icing characteristics as necessary to demonstrate that ice accumulation on the engine air inlet will not adversely affect engine operation or cause a serious loss of power when the helicopter is operated in icing conditions within the capability of the remainder of the helicopter to operate under such conditions.

Note 11. Model 204B helicopters that are equipped with the Main Rotor Blade, P/N 204-011-250, and that have the External Cargo Suspension installation completed in accordance with Bell Service Instructions No. 204-3 meet the structural and design requirements of the certification basis when operated at 9,500 pounds gross weight in accordance with the limits of FAA Approved Model 204B Rotorcraft Flight Manual Supplement dated August 1, 1964. Gross weights above 8,500 pounds are limited to External Cargo Load only and must not be imposed on the landing gear. The retirement times listed in Note 3 are not changed.

Note 12. Main Rotor Retention Strap, P/N 204-012-112-1, must not be installed on Models 204B, 205A, 205A-1 and 205B.

Note 13. Model 205A helicopters equipped with the External Cargo Suspension installation completed in accordance with Bell Drawing No. 204-706-104 meet the structural and design requirements of the certification basis when operated at 9,500 pounds gross weight in accordance with the limits of the FAA Approved Model 205A Rotorcraft Flight Manual Supplements listed below:

Model 205A with Lycoming T5311A engine Supplement dated May 31, 1968.

Model 205A with Lycoming T5313A engine installed in accordance with Note 14 Supplement Dated August 15, 1968 (eligible on helicopters with Serial numbers 30001 thru 30010 and 30017 thru 30039).

Model 205A with Lycoming T5313A engine installed in accordance with Note 14 Supplement dated August 16, 1968 (applicable to Serial Numbers 30011 through 30016 only).

Note 14. Model 205A helicopters are eligible for the Lycoming T5313A engine and for a gross weight increase to 9,500 pounds when the engine is installed and engine and helicopter markings are revised in accordance with Bell Service Instruction No. 205-28 and when equipped and operated in accordance with the FAA Approved Rotorcraft Flight Manual dated August 15, 1968. Model 205A, S/N's 30011 thru 30016 with the Lycoming T5313A engine installation must be operated in accordance with FAA Approved Rotorcraft Flight manual dated August 16, 1968. (See Note 19)

The following limits are applicable:

Engine	Lycoming T5313A or T5313B			
Fuel	ASTM Type A (JP-5) or Type B (JP-4) (See Note 15) See Appendix 1 of applicable rotorcraft flight manual for approved vendor designations.			
Engine Limits	Torque Pressure (P.S.I.)	Output Shaft Speed (R.P.M.)	Exhaust Gas Temp. (°C)	Gas Gen. Speed (R.P.M.)
Takeoff (5 minutes)	47.5 (1100 h.p.)	6,600 (100%)	626	25,150 (100%)
Maximum Continuous	39.0 (900 h.p.)	6,600 (100%)	610	24,650 (98%)
	(See Notes 6 and 7)			
Airspeed	Never exceed speed 120 knots up to and including 7,500 lbs. G.W. at sea level. Never exceed speed 115 knots from 7,500 lbs. to 8,500 lbs. G.W. at sea level. Never exceed 110 knots from 8,500 lbs. to 9,500 lbs. G.W. at sea level. Velocity decreases 3 knots per 1,000 feet.			
C.G. Range	(a) Longitudinal C.G. Limits (+133) to (+143) at 9,500 lbs. (+130) to (+144) at 8,500 lbs. (+130) to (+144) at 6,500 lbs. (+134) to (+144) at 5,300 lbs. (b) Lateral C.G. Limits (No change from basic)			
Maximum Weight	9,500 lbs.			
Serial Nos. Eligible	30001 thru 30039			

- Note 15. For all operations below 40°F. ambient temperature, all fuel used in the Model 205A, 205A-1, 205B and 210 helicopters must contain anti-icing additive in accordance with Phillips Specification PFA55MB in concentrations of not less than 0.035% nor more than 0.15% by volume. Blending this additive into the fuel and checking its concentration must be conducted in the manner prescribed by the Rotorcraft Flight Manual.
- Note 16. Model 205A-1 helicopters equipped with the External Cargo Suspension installation completed in accordance with Bell Drawing No. 204-706-104 meet the structural and design requirements of the certification basis when operated at or below 10,500 pounds gross weight in accordance with the limits of FAA Approved Model 205A-1 Rotorcraft Flight Manual Supplement dated October 18, 1968. The retirement times listed in Note 3 are not changed.
- Note 17. Model 205A helicopters with Serial Nos. 30001 thru 30039 may be modified to the Model 205A-1 configuration and ratings. See Bell Service Instruction 205-32. The basic model nameplate must be restamped to read 205A-1 upon accomplishment of this modification. (Serial Nos. 30040 thru 30052 are not eligible for certification.)
- Note 18. A partition must not be installed between the passenger and crew compartments that will obscure the pilot's view of latch engagement of both passenger doors.
- Note 19. Lycoming engine Model T5313B is eligible and interchangeable with T5313A engines in the Model 205A-1. All ratings, limitations, performance, and installation considerations remain unchanged. Rotorcraft Flight Manual Supplement dated February 17, 1970, is required.
- Note 20. Bulkheads, fences or partitions must not be installed between the passenger and crew compartments when the helicopter is equipped with the Model 204B Litter Kit No. 204-706-029 or Model 205A and 205A-1 Litter Kit No. 205-706-047.
- Note 21. Lycoming Engine Model T5311B is eligible in lieu of Model T5311A in the Model 204B. Driveshaft adapter, P/N 204-040-812-3, is required. See Bell Service Letter No. 205A-76/204B-90. Rotorcraft Flight Manual Supplement dated June 30, 1972, required.
- Note 22. The Models 205B and 210 meet the requirements for Stage 1 Noise Certification as described in FAR 36.
- Note 23. Deleted by Revision 20, May 17, 2002.
- Note 24. The following Serial Numbers were produced under Type Certificate only: 21001 thru 21004. S/N 21001 was produced under Type Certificate by BHTI. S/N 21002 thru 21004 were produced under Type Certificate licensed to Aeronautical Accessories, Inc.
- Note 25. Any alteration to the type design of the Bell Models 204B, 205A, 205A-1, 205B and 210 may require instructions for continued airworthiness. These instructions must be submitted to and accepted by the Fort Worth Aircraft Evaluation Group prior to approval for return to service.
- Note 26. Model 205B helicopters equipped with the External Cargo Suspension installation competed in accordance with Bell Drawing No. 204-706-104 meet structural and design requirements of the certification basis when operated at or below 11, 200 pounds gross weight in accordance with the limits of FAA approved Model 205B Rotorcraft Flight Manual Supplement dated August 14, 1995.
- Note 27. Model 210 helicopters equipped with the External Cargo Suspension installation competed in accordance with Bell Service Instruction BHT-210-SI-4 meet structural and design requirements of the certification basis when operated at or below 11, 200 pounds gross weight in accordance with the limits of FAA approved Model 210 Rotorcraft Flight Manual Supplement dated January 18, 2006.

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